

IN THE CLAIMS:

CLAIM 1. [AMENDED] A heat transfer fluid composition consisting essentially of: (a) 10% to 90% by volume of at least one terpene component; and (b) 90% to 10% by volume of ~~at least one silicone component~~ polydimethylsiloxane, in complementary proportional percentage amounts to retain the composition in its liquid phase at any temperature in the entire range from about 0°F to about -200°F.

CLAIM 2. [ORIGINAL] The heat transfer fluid composition of Claim 1, wherein the at least one terpene is selected from the group consisting of acyclic terpenes, monocyclic terpenes and bicyclic terpenes.

CLAIM 3. [ORIGINAL] The heat transfer fluid composition of Claim 2, wherein the acyclic terpenes are composed of geraniolene; myrcene; dihydromyrcene; ocimene and allo-ocimene.

CLAIM 4. [ORIGINAL] The heat transfer fluid composition of Claim 2, wherein the monocyclic terpenes are composed of *p*-menthane; carvomethene; methene, dihydroterpinolene; dihydrodipentene;  $\alpha$ -terpinene;  $\gamma$ -terpinene;  $\alpha$ -phellandrene; pseudolimonene; limonene; d-limonene; 1-limonene; d,1-limonene; isolimonene; terpinolene; isoterpinolene;  $\beta$ -phellandrene;  $\beta$ -terpinene; cyclogeraniolane; pyronane;  $\alpha$ -cyclogeraniolene;  $\beta$ -cyclogeraniolene;  $\gamma$ -cyclogeraniolene; methyl- $\gamma$ -pyronene; 1-ethyl-5,5-dimethyl-1,3-cyclohexadiene; 2-ethyl-6,6-dimethyl-1,3-cyclohexadiene; 2-*p*-menthene; 1(7)-*p*-methadiene; 3,8-*p*-menthene; 2,4-*p*-menthadiene; 2,5-*p*-menthadiene; 1(7),4(8)-*p*-methadiene; 3,8-*p*-menthadiene; 1,2,3,5-tetramethyl-1-3-cyclohexadiene; 1,2,4,6-tetramethyl-1,3-cyclohexadiene; 1,6,6-trimethylcyclohexene and 1,1-dimethylcyclohexane.

CLAIM 5. [ORIGINAL] The heat transfer fluid composition of Claim 2, wherein the bicyclic terpenes are composed of norsabinane; northujene; 5-isopropylbicyclo[3.1.0]hex-2-ene;

thujane;  $\beta$ -thujene;  $\alpha$ -thujene; sabinene; 3,7-thujadiene; norcarane; 2-norcarene; 3-norcarene; 2-4-norcaradiene; carane; 2-carene; 3-carene;  $\beta$ -carene; nonpinane; 2-norpinene; apopinane; apopinene; orthodene; norpadiene; homopinene; pinane; 2-pinene; 3-pinene;  $\beta$ -pinene; verbenene; homoverbanene; 4-methylene-2-pinene; norcamphane; apocamphane; campane;  $\alpha$ -fenchane;  $\alpha$ -fenchene; santenane; santane; norcamphene; camphenilane; fenchane; isocamphane;  $\beta$ -fenchane; camphene;  $\beta$ -fenchane; 2-norbornene; apobornylene; bornylene; 2,7,7-trimethyl-2-norbornene; santene; 1,2,3-trimethyl-2-norbornene; isocamphodiene; camphenilene; isofenchene and 2,5,5-trimethyl-2-norbornene.

CLAIM 6. [ORIGINAL] The heat transfer fluid composition of Claim 1, wherein the at least one terpene is selected from the group consisting of d-limonene, terpinolene,  $\alpha$ -terpinene,  $\gamma$ -terpinene, myrcene, 3-carene, sabinene,  $\alpha$ -pinene and camphene.

CLAIM 7. [AMENDED] The heat transfer fluid composition of Claim 1, wherein the ~~at least one silicone is selected from the group consisting of silicones having viscosities~~ polydimethylsiloxane has a viscosity less than 10.0 cSt.

CLAIM 8. [AMENDED] The heat transfer fluid composition of Claim 1, wherein the terpene component consists essentially of d-limonene and the ~~silicone component consists essentially of a silicone having~~ polydimethylsiloxane has a viscosity of 1.6 cSt.

CLAIM 9. [ORIGINAL] The heat transfer fluid composition of Claim 1, wherein the composition further consists of at least one antioxidant and a stabilizing agent.

CLAIM 10. [AMENDED] A low temperature heat transfer process using a heat transfer fluid composition comprising the steps of:

a. transferring thermal energy from the heat transfer fluid composition to a cooling fluid such that the heat transfer fluid composition is cooled to a temperature between about 0° and about -200°F;

b. transferring thermal energy from an object to be cooled to the heat transfer fluid composition; and,

c. repeating (a) and (b) until said object is cooled to the desired temperature;

wherein said heat transfer fluid composition consisting essentially of: (a) 10% to 90% by volume of at least one terpene component; and (b) 90% to 10% by volume of ~~at least one silicone component~~ polydimethylsiloxane; in complementary proportional percentage amounts to retain the composition in its liquid phase at any temperature in the entire range from about 0°F to about -200°F.

CLAIM 11. [ORIGINAL] The process of Claim 10, wherein the thermal energy is transferred from the heat transfer fluid composition to at least one cryogenic fluid or a refrigerant.


CLAIM 12. [ORIGINAL] The process of Claim 10, wherein the process is operated under conditions such that the temperature of the heat transfer composition ranges from about 0°F to between about -150°F and about -200°F.

CLAIM 13. [ORIGINAL] The process of Claim 10, wherein the at least one terpene is selected from the group consisting of acyclic terpenes, monocyclic terpenes and bicyclic terpenes.

CLAIM 14. [ORIGINAL] The process of Claim 13, wherein the acyclic terpenes are composed of geraniolene; myrcene; dihydromyrcene; ocimene and allo-ocimene.

CLAIM 15. [ORIGINAL] The process of Claim 13, wherein the monocyclic terpenes are composed of *p*-menthane; carvomethene; methene, dihydroterpinolene; dihydrodipentene;

$\alpha$ -terpinene;  $\gamma$ -terpinene;  $\alpha$ -phellandrene; pseudolimonene; limonene; d-limonene; 1-limonene; d,1-limonene; isolimonene; terpinolene; isoterpinolene;  $\beta$ -phellandrene;  $\beta$ -terpinene; cyclogeraniolane; pyronane;  $\alpha$ -cyclogeraniolene;  $\beta$ -cyclogeraniolene;  $\gamma$ -cyclogeraniolene; methyl- $\gamma$ -pyronene; 1-ethyl-5,5-dimethyl-1,3-cyclohexadiene; 2-ethyl-6,6-dimethyl-1,3-cyclohexadiene; 2-p-menthene; 1(7)-p-methadiene; 3,8-p-menthene; 2,4-p-menthadiene; 2,5-p-menthadiene; 1(7),4(8)-p-methadiene; 3,8-p-menthadiene; 1,2,3,5-tetramethyl-1-3-cyclohexadiene; 1,2,4,6-tetramethyl-1,3-cyclohexadiene; 1,6,6-trimethylcyclohexene and 1,1-dimethylcyclohexane.

 CLAIM 16. [ORIGINAL] The process of Claim 13, wherein the bicyclic terpenes are composed of norsabinane; northujene; 5-isopropylbicyclo[3.1.0]hex-2-ene; thujane;  $\beta$ -thujene;  $\alpha$ -thujene; sabinene; 3,7-thujadiene; norcarane; 2-norcarene; 3-norcarene; 2-4-norcaradiene; carane; 2-carene; 3-carene;  $\beta$ -carene; nonpinane; 2-norpinene; apopinane; apopinene; orthodene; norpadiene; homopinene; pinane; 2-pinene; 3-pinene;  $\beta$ -pinene; verbenene; homoverbanene; 4-methylene-2-pinene; norcamphane; apocamphane; campane;  $\alpha$ -fenchane;  $\alpha$ -fenchene; santenane; santane; norcamphene; camphenilane; fenchane; isocamphane;  $\beta$ -fenchane; camphene;  $\beta$ -fenchane; 2-norbornene; apobornylene; bornylene; 2,7,7-trimethyl-2-norbornene; santene; 1,2,3-trimethyl-2-norbornene; isocamphodiene; camphenilene; isofenchene and 2,5,5-trimethyl-2-norbornene.

CLAIM 17. [AMENDED] The process of Claim 10, wherein the at least one is selected from the group consisting of d-limonene, terpinolene,  $\alpha$ -terpinene;  $\gamma$ -terpinene, myrcene, 3-carene, sabinene,  $\alpha$ -pinene and camphene and the ~~at least one silicone is selected from the group of~~ silicones having viscosities polydimethylsiloxane has a viscosity less than 10.0 cSt.